#### LOUISIANA NET METERING RULES

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#### **DEFINITIONS**

#### **Avoided Costs**

The incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the net metering facility, such utility would generate itself or purchase from another source.

# Billing period

The billing period for net metering will be the same as the billing period under the customer's applicable standard rate schedule.

#### **Biomass**

- (A) Any organic matter that is available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, wood and wood wastes and residues, aquatic plants, grasses, residues, fibers, and animal wastes, municipal wastes, and other waste materials.
- (B) Biomass shall not include:
  - 1. Wood contaminated with plastic or metals; exceptions such as construction debris may be allowed by the Commission after a docketed proceeding and only after the applicant has obtained any and all additional approval from other state and/or federal regulatory agencies.
  - 2. Recyclable post-consumer waste paper; exceptions may be allowed on a case by case basis by the Commission after a docketed proceeding and only after the applicant has obtained any and all additional approval from other state and/or federal regulatory agencies.

# Biomass facility

A facility that may use one or more organic fuel sources that can either be processed into synthetic fuels or burned directly to produce steam or electricity, provided that the resources are renewable, environmentally sustainable in their production and use, and the process of conversion to electricity results in a net environmental benefit. This includes, but is not limited to, dedicated energy crops and trees, agricultural food and feed crops, agricultural crop wastes and residues, wood wastes and residues, aquatic plants, animal wastes, and other accepted organic, renewable waste materials.

#### Commercial customer

A customer served under a utility's standard rate schedule applicable to commercial service.

#### Commission

The Louisiana Public Service Commission.

### Electric utility/Utility

A public or investor owned electric utility, an electric cooperative, or any private power supplier or marketer that is engages in the business of supplying electric energy to the ultimate customer or any customer class within the state. The electric utility must fall under the jurisdiction of the Commission in order to be required to comply with the provisions set out herein.

## Fuel cell facility

A facility that converts the chemical energy of a fuel directly to direct current electricity without intermediate combustion or thermal cycles.

### Geothermal facility

An electric generating facility in which the prime mover is a steam turbine. The steam is generated in the earth by heat from the earth's magma.

# Hydroelectric facility

An electric generating facility in which the kinetic energy is derived from moving water. The facility must meet all local, state, and Federal regulations that govern or effect the construction and operation of a hydroelectric power plant and must protect all users of the resource, including the plant, fish, and animal communities that utilize the water. Local, state, and Federal legal restrictions on the development of the hydroelectric site and the use of the water must be complied with

#### Interconnection costs

The reasonable costs of connection, switching, metering, transmission, distribution, safety provisions and administrative costs incurred by the electric utility directly related to the installation and maintenance of the physical facilities necessary to permit interconnected operations with a net metering facility, to the extent the costs are in excess of the corresponding costs which the electric utility would have incurred if it had not engaged in interconnected operations, but instead generated an equivalent amount of electric energy itself or purchased an equivalent amount of electric energy or capacity from other sources. Interconnection costs do not include any costs included in the calculation of avoided costs.

#### Micro turbine facility

A facility that uses a small combustion turbine to produce electricity.

## Net metering

Measuring the difference between electricity supplied by an electric utility and the electricity generated by a net metering customer and fed back to the electric utility over the applicable billing period.

#### Net metering customer

Any customer who chooses to take electric service under the net metering tariff, as set out below.

### Net metering facility

A facility for the production of electrical energy that:

- (A) Uses solar, wind, hydroelectric, geothermal, or biomass resources to generate electricity including, but not limited to, fuel cells and micro turbines that generate electricity if the fuel source is entirely derived from renewable resources; and,
- (B) Has a generating capacity of not more than twenty-five (25) kilowatts for residential or one hundred (100) kilowatts for commercial or agricultural use; and,
- (C) Is located in Louisiana; and,
- (D) Can operate in parallel with an electric utility's existing transmission and distribution facilities; and,
- (E) Is intended primarily to offset part or all of the net-metering customer requirements for electricity.

#### Parallel operation

The operation of on-site generation by a customer while the customer is connected to the utility's distribution system.

#### Residential customer

A customer served under a utility's standard rate schedules applicable to residential service.

# Solar facility

A facility in which electricity is generated through the collection, transfer and/or storage of the sun's heat or light.

#### Wind facility

A facility in which an electric generator is powered by a wind-driven turbine.

#### SECTION 1. GENERAL PROVISIONS

# 1.01. Purpose

The purpose of these Rules is to establish rules for net energy metering and interconnection.

#### 1.02. Statutory Provisions

- A. The Commission exercises jurisdiction over motor carriers and public utilities pursuant to Article IV, Section 21(B) of the Louisiana Constitution.
- B. Legislative Act No. 653, Regular Session 2003.

#### 1.03. Other Provisions

- A. These Rules apply to all electric utilities, as defined in these Rules, that are jurisdictional to the Commission.
- B. The Net Metering Rules are not intended to, and do not affect or replace any Commission approved general service regulation, policy, procedure, rule or service application of any utility which address items other than those covered in these Rules.
- C. Net metering customers taking service under the provisions of the Net Metering Tariff may not simultaneously take service under the provisions of any other alternative source generation or cogeneration tariffs except as provided herein.

# **SECTION 2. NET METERING REQUIREMENTS**

# 2.01. Electric Utility Requirements

- A. An electric utility, subject to the jurisdiction of this Commission, that offers residential or commercial electrical service, or both, shall allow net metering facilities to be interconnected using a standard meter capable of registering the flow of electricity in two (2) directions. A two-channel meter or other type meter(s) which is capable of determining the net energy can be utilized, as well.
- B. If the meter that is currently installed on the net metering facility is incapable of registering the flow of electricity in two directions, an additional meter or meters to monitor the flow of electricity in each direction may be installed by the electric utility. The cost of the meter shall not be borne by the net metering customer, unless the additional meter(s) is not required by the electric utility, but instead requested by the net metering customer.
- C. If an additional meter or meters are installed, as described in 2.01(B) above, the net energy metering calculation shall yield the same result as when a single meter is used.

# 2.02. Metering Requirements

- A. Metering equipment shall be installed to both accurately measure the electricity applied by the electric utility to each net-metering customer and also to accurately measure the electricity generated by each net-metering customer that is fed back to the electric utility over the applicable billing period. Notwithstanding the provisions of Section 3.01 below, the cost of the meter is the responsibility of the electric utility, but the utility will be allowed to assess a one-time customer charge to cover the installation costs. The utility may also assess a customer charge for any additional meter installations if the additional installations are requested by the net metering customer.
- B. Accuracy requirements for a meter operating in both forward and reverse registration modes shall be defined in Appendix B. A test to determine compliance with this accuracy requirement shall be made by the electric utility either before or at the time the net metering facility is placed in operation in accordance with these Rules. The costs associated with the test may be included in the customer charge, as set out in Section 2.02(A) or it may be a separate customer charge, to be assessed to the net metering customer. The customer charge for testing may be assessed when the customer's meter is first tested, and the same fee may be charged by the utility each time the customer requests additional meter tests to be performed.

# 2.03. New or Additional Charges

- A. Any new or additional charge that would increase a net metering customer's costs beyond those of other customers in the rate class shall be filed by the electric utility with the Commission for approval. The filing shall be supported by cost/benefit analyses.
- B. Following notice and opportunity for public comment, the Commission may authorize an electric utility to assess a net metering customer a greater fee or customer charge, of any type, if the electric utility's direct costs of interconnection and administration of net-metering outweigh the distribution system, environmental and public policy benefits of allocating the costs among the electric utility's entire customer base.
- C. Net metering customers shall be obligated to pay any interconnection costs, as defined above. These costs shall be assessed on a nondiscriminatory basis with respect to other customers with similar load characteristics.

Electric utilities shall be reimbursed by the net metering customer for interconnection costs at the time the costs are incurred. Upon petition by any party involved and for good cause shown, the Commission may allow for reimbursement of the interconnection costs over a reasonable period of time and upon such conditions as the Commission may determine; provided, however, that no other customers of the utility shall bear any of the costs of interconnection.

# 2.04. Billing for Net Metering

- A. On a monthly basis, the net metering customer shall be billed the charges applicable under the currently effective standard rate schedule and any appropriate rider schedules. Under net metering, only the kilowatt-hour (kWh) units of a customer's bill are affected.
- B. If the kWhs supplied by the electric utility exceeds the kWhs generated by the net metering facility and are fed back to the electric utility during the billing period, the net metering customer shall be billed for the net kWhs supplied by the electric utility in accordance with the rates and charges under the customer's standard rate schedule.
- C. Where the electricity generated by the net metering customer exceeds the electricity supplied by the electric utility, the net metering customer shall be credited, during the next billing period, for the excess kilowatt hours generated in accordance with this section. The utility shall credit the net metering customer for the excess generated electricity at a value that is at avoided cost. Credits to net metering customers shall be made in conformity with the net metering tariffs, filed by electric utilities, as further set out in Section 5. The electric utility shall have the option to credit the payment due a net metering customer against the

customer's charge for electric service for that month or the electric utility, at its discretion, may issue a check to the customer to account for the credit due. For the final month in which the net metering customer takes service from the electric utility, the electric utility shall issue a check to the net metering customer for all outstanding credits due.

# 2.05. Renewable Energy Credits

This section is not needed at this time due to the fact that there is no renewable portfolio standard requirement ("RPS") for LPSC jurisdictional electric utilities. The Commission reserves the right to revisit this section if a RPS requirement is ultimately required or if a Renewable Energy Credit program is established.

# SECTION 3. INTERCONNECTION OF NET METERING FACILITIES TO EXISTING ELECTRIC POWER SYSTEMS

# 3.01 Requirements for Initial Interconnection of Net Metering Facility

- A. A net metering customer shall execute a Standard Interconnection Agreement for Net Metering Facilities (please see Appendix A) prior to interconnection with the utility's facilities. The Standard Interconnection Agreement shall set forth the expenses for which the net metering customer shall be responsible.
- B. A net metering facility shall be capable of safely operating in parallel prior to commencing the delivery of power into the utility system at a single point of interconnection. A net metering facility shall have a visibly open, lockable, manual disconnection switch that is accessible by the electric utility and clearly labeled, unless this requirement is waived by the Utility pursuant to Section 4 of the Standard Interconnection Agreement.
- C. The customer shall submit a Standard Interconnection Agreement to the electric utility at least forty-five (45) days prior to the date of the customer intends to interconnect the net metering facilities to the utility's facilities. Part I, Standard information, Sections 1 through 4 of the Standard Interconnection Agreement must be completed for the notification to be valid. The customer shall have all equipment necessary to complete the interconnection prior to such notification. If mailed, the date of notification shall be the third day following the mailing of the Standard Interconnection agreement. The net metering customer will be required to provide documentation indicating the date upon which the notification was mailed to the electric utility. The electric utility shall provide a copy of the Standard Interconnection Agreement to the customer upon request.
- D. Following notification by the customer as specified in Section 3.01.C, the electric utility shall review the plans of the facility and provide the results of its review to the customer within 45 calendar days from the date of notification. Any items that would prevent parallel operation due to violation of safety standards and/or power generation limits shall be explained along with a description of the modification necessary to remedy the violations.
- E. The net metering facility, at the net metering customer's expense, shall meet all safety and performance standards established by local and national electric codes including the National Electric Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), the National Electrical Safety Code (NESC), and Underwriters Laboratories (UL).
- F. The net metering facility, at the net metering customer's expense, shall meet all safety and performance standards adopted by the utility and filed with and approved by the Commission pursuant to these rules that are necessary to assure safe and reliable operation of the net metering facility to the utility's system.

G. If the electric utility's existing facilities are not adequate to interconnect with the net metering facility, any changes will be performed in accordance with the electric utility's Extension of Facilities Tariff.

# Rule 3.02. Requirements for Modification or Changes to a Net Metering Facility

Modifications or changes made to a net metering facility shall be evaluated by the electric utility prior to being made. The net metering customer shall provide detailed information describing the modifications or changes to the electric utility in writing prior to making the modifications to the net metering facility. The electric utility shall review the proposed changes to the facility and provide the results to its evaluation to the customer within forty-five (45) days of receipt of the customer's proposal. Any items that would prevent parallel operation due to violation of applicable safety standards and/or power generation limits shall be explained along with a description of the modifications necessary to remedy the violations.

# SECTION 4. STANDARD INTERCONECTION AGREEMENT FOR NET METERING FACILITIES.

### 4.01. Standard Interconnection Agreement.

Each electric utility shall file, for approval by the Commission, a Standard Interconnection Agreement for Net Metering Facilities (please see Appendix A). The electric utility may submit a Standard Interconnection Agreement with proposed modifications, however, the proposed modifications will only become effective upon approval by the Commission or its Staff. The Standard Interconnection Agreement shall describe any and all interconnection expenses, and other customer charges in conformity with Sections 2.02 and 2.03 above, for which the net metering customer shall be responsible.

# SECTION 5. STANDARD NET METERING TARIFF FOR NET METERING FACILITIES.

# 5.01 Net Metering Tariff.

Each electric utility shall file, for approval by the Commission, a Net Metering Tariff in standard tariff format within 90 days from the effective date of these rules. The Net Metering Tariff shall be filed with and maintained by the Commission. The tariff shall specify standard rates for purchases from net metering facilities with a design capacity of 100 kilowatts or less. The Net Metering Tariff must comply with the Section 204 (a)(c) and (e), regarding standard rates for purchases at avoided costs, of the Commission's General Order dated February 27,1998. Electric utilities may include seasonally differentiated avoided cost rates for purchases from net metering customers, to the extent that avoided costs vary by season. The net metering tariff may include customer charges or interconnection charges as set forth in Sections 2.02 and 2.03 above.

# 5.01 Periods during which purchases not required.

Any electric utility will not be required to purchase electric energy or capacity during any period during which, due to operational circumstances, purchases from net metering customer will result in costs greater than those which the utility would incur if it did not make the purchases, but instead generated an equivalent amount of energy itself; provided, however, that any electric utility seeking to invoke this rule must notify each affected net metering customer within a reasonable amount of time to allow the customer to cease the delivery of energy or capacity to the electric utility. A claim by an electric utility that such a period has occurred or will occur is subject to verification by the Commission.

# 5.02 Filing and Reporting Requirements.

Each electric utility shall file a report listing all existing net metering facilities and the generator rating and, where applicable, the inverter power rating of each net metering facility as of the end of the previous calendar year. When the filing is made, the title of the filing shall reference Docket Number, R-27558.

# STANDARD INTERCONNECTION AGREEMENT FOR NET METERING FACILITIES

# I. STANDARD INFORMATION

# Section 1. Customer Information

Mailing Address:  City: State: Zip Code:  Facility Location (if different from above):  Daytime Phone: Evening Phone:  Utility Customer Account (from electric bill):  Section 2. Generation Facility Information  System Type: Solar Wind Hydro Geothermal Biomass Fuel Cell Micro turbine  Generator Rating (kW): AC or DC (circle one)  Describe Location of Accessible and Lockable Disconnect:  Inverter Manufacturer: Inverter Model:  Inverter Location: Inverter Power Rating:  Section 3. Installation Information  Attach a detailed electrical diagram of the net metering facility.  Installed by: Qualifications/Credentials:  Mailing Address:  City: State: Zip Code:	Name:				
City: State: Zip Code: Facility Location (if different from above): Daytime Phone: Evening Phone: Utility Customer Account (from electric bill):  Section 2. Generation Facility Information  System Type: Solar Wind Hydro Geothermal Biomass Fuel Cell Micro turbine Generator Rating (kW): AC or DC (circle one) Describe Location of Accessible and Lockable Disconnect: Inverter Manufacturer: Inverter Model: Inverter Manufacturer: Inverter Model: Inverter Location: Inverter Power Rating:  Section 3. Installation Information Attach a detailed electrical diagram of the net metering facility. Installed by: Qualifications/Credentials:	Mailing Address:				
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Daytime Phone: Evening Phone: Utility Customer Account (from electric bill):  Section 2. Generation Facility Information  System Type: Solar Wind Hydro Geothermal Biomass Fuel Cell Micro turbine Generator Rating (kW): AC or DC (circle one) Describe Location of Accessible and Lockable Disconnect: Inverter Manufacturer: Inverter Model: Inverter Location: Inverter Power Rating:  Section 3. Installation Information  Attach a detailed electrical diagram of the net metering facility. Installed by:  Qualifications/Credentials:  Mailing Address:  City:  State:  Zip Code:  Daytime Phone:  Installation Date:  Section 4. Certification  1. The system has been installed in compliance with the local Building/Electrical Code of (City/Parish)  Signed (Inspector):  (In lieu of signature of inspector, a copy of the final inspection certificate may be attached.)  2. The system has been installed to my satisfaction and I have been given system warranty information and an operation manual, and have been instructed in the operation of the system.  Signed (Owner):  Date:  Section 5. Utility Verification and Approval  1. Facility Interconnection Approved:  Date:	Facility Location (if di	fferent from above):			
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# II. INTERCONNECTION AGREEMENT TERMS AND CONDITIONS

This Interconnection Agreement for Net Me	etering Facilities ("Agreement"	) is made and entered into this
day of, 20, by		
(specify whether corporatio	on or other), each hereinafter s	ometimes referred to individually as
"Party" or collectively as the "Parties". In	consideration of the mutual co	ovenants set forth herein, the Parties
agree as follows:		

# Section 1. The Net Metering Facility

The Net Metering Facility meets the requirements of "Net Metering Facility", as defined in the Louisiana Net Metering Rules.

# Section 2. Governing Provisions

The terms of this agreement shall be interpreted under and subject to Louisiana Law. The parties shall be subject to the provisions of House Bill 2002, the terms and conditions as set forth in this Agreement, the Net Metering Rules, and the Utility's applicable tariffs.

# Section 3. Interruption or Reduction of Deliveries

The Utility shall not be obligated to accept and may require Customer to interrupt or reduce deliveries when necessary in order to construct, install, repair, replace, remove, investigate, or inspect any of its equipment or part of its system; or if it reasonably determines that curtailment, interruption, or reduction is necessary because of emergencies, forced outages, force majeure, or compliance with prudent electrical practices. Whenever possible, the Utility shall give the Customer reasonable notice of the possibility that interruption or reduction of deliveries may be required. Notwithstanding any other provision of this Agreement, if at any time the Utility reasonably determines that either the facility may endanger the Utility's personnel or other persons or property, or the continued operation of the Customer's facility may endanger the integrity or safety of the Utility's electric system, the Utility shall have the right to disconnect and lock out the Customer's facility from the Utility's electric system. The Customer's facility shall remain disconnected until such time as the Utility is reasonably satisfied that the conditions referenced in this Section have been corrected.

# Section 4. Interconnection

Customer shall deliver the as-available energy to the Utility at the Utility's meter.

Utility shall furnish and install a standard kilowatt-hour meter. Customer shall provide and install a meter socket for the Utility's meter and any related interconnection equipment per the Utility's technical requirements, including safety and performance standards. Customer shall be responsible for all costs associated with installation of the standard kilowatt-hour meter and testing in conformity with Sections 2.02 of the Net Metering Rules.

The customer shall submit a Standard Interconnection Agreement to the electric utility at least forty-five (45) days prior to the date the customer intends to interconnect the net metering facilities to the utility's facilities. Part I, Standard Information Sections 1 through 4 of the Standard Interconnection Agreement must be completed for the notification to be valid. The customer shall have all equipment necessary to complete the interconnection prior to such notification. If mailed, the date of notification shall be the third day following the mailing of the Standard Interconnection agreement. The net metering customer will be required to provide

documentation indicating the date upon which the notification was mailed to the electric utility. The electric utility shall provide a copy of the Standard Interconnection Agreement to the customer upon request.

Following notification by the customer as specified in Rule 3.01.C, the utility shall review the plans of the facility and provide the results of its review to the customer within 45 calendar days. Any items that would prevent parallel operation due to violation of applicable safety standards and/or power generation limits shall be explained along with a description of the modifications necessary to remedy the violations.

To prevent a net metering customer from back-feeding a de-energized line, the customer shall install a manual disconnect switch with lockout capability that is accessible to utility personnel at all hours. This requirement for a manual disconnect switch may be waived if the following three conditions are met: 1) The inverter equipment must be designed to shut down or disconnect and cannot be manually overridden by the customer upon loss of utility service; 2) The inverter must be warranted by the manufacturer to shut down or disconnect upon loss of utility service; and 3) The inverter must be properly installed and operated, and inspected and/or tested by utility personnel. The decision to grant the waiver will be at the Utility's discretion, however, any decision will be subject to review by the Commission.

Customer, at his own expense, shall meet all safety and performance standards established by local and national electrical codes including the National Electrical Code (NEC), the Institute of Electrical and Electronics Engineers (IEEE), the National Electrical Safety Code (NESC), and Underwriters Laboratories (UL).

Customer, at his own expense, shall meet all safety and performance standards adopted by the utility and filed with and approved by the Commission pursuant to Rule 3.01.F that are necessary to assure safe and reliable operation of the net metering facility to the utility's system.

Customer shall not commence parallel operation of the net metering facility until the net metering facility has been inspected and approved by the Utility. Such approval shall not be unreasonably withheld or delayed. Notwithstanding the foregoing, the Utility's approval to operate the Customer's net metering facility in parallel with the Utility's electrical system should not be construed as an endorsement, confirmation, warranty, guarantee, or representation concerning the safety, operating characteristics, durability, or reliability of the Customer's net metering facility.

Modifications or changes made to a net metering facility shall be evaluated by the Utility prior to being made. The Customer shall provide detailed information describing the modifications or changes to the Utility in writing prior to making the modifications to the net metering facility. The Utility shall review the proposed changes to the facility and provide the results of its evaluation to the Customer within forty-five (45) calendar days of receipt of the Customer's proposal. Any items that would prevent parallel operation due to violation of applicable safety standards and/or power generation limits shall be explained along with a description of the modifications necessary to remedy the violations.

Section 5. Maintenance and Permits

The customer shall obtain any governmental authorizations and permits required for the construction and operation of the net metering facility and interconnection facilities. The Customer shall maintain the net metering facility and interconnection facilities in a safe and reliable manner and in conformance with all applicable laws and regulations.

Section 6. Access to Premises

The Utility may enter the Customer's premises to inspect the Customer's protective devices and read or test the meter. The Utility may disconnect the interconnection facilities without notice if the Utility reasonably believes a hazardous condition exists and such immediate action is necessary to protect persons, or the Utility's facilities, or property of others from damage or interference caused by the Customer's facilities, or lack of properly operating protective devices.

# Section 7. Indemnity and Liability

Each party shall indemnify the other party, its directors, officers, agents, and employees against all loss, damages expense and liability to third persons for injury to or death of persons or injury to property caused by the indemnifying party's engineering design, construction ownership or operations of, or the making of replacements, additions or betterment to, or by failure of, any of such party's works or facilities used in connection with this Agreement by reason of omission or negligence, whether active or passive. The indemnifying party shall, on the other party's request, defend any suit asserting a claim covered by this indemnity. The indemnifying party shall pay all costs that may be incurred by the other party in enforcing this indemnity. It is the intent of the parties hereto that, where negligence is determined to be contributory, principles of comparative negligence will be followed and each party shall bear the proportionate cost of any loss, damage, expense and liability attributable to that party's negligence.

Nothing in this Agreement shall be construed to create any duty to, any standard of care with reference to or any liability to any person not a party to this Agreement. Neither the Utility, its officers, agents or employees shall be liable for any claims, demands, costs, losses, causes of action, or any other liability of any nature or kind, arising out of the engineering, design construction, ownership, maintenance or operation of, or making replacements, additions or betterment to, the Customer's facilities by the Customer or any other person or entity.

#### Section 8. Notices

A11	written	notices	shall	be di	rected	as foll	ows:

Attention: [Utility Agent or Representative	
[Utility Name and Address]	
Attention: [Customer] Name: Address:	

Customer notices to Utility shall refer to the Customer's electric service account number set forth in Section 1 of this Agreement.

Section 9. Term of Agreement

The term of this Agreement shall be the same as the term of the otherwise applicable standard rate schedule. This Agreement shall remain in effect until modified or terminated in accordance with its terms or applicable regulations or laws.

Section 10. Assignment

This Agreement and all provisions hereof shall inure to and be binding upon the respective parties hereto, their personal representatives, heirs, successors, and assigns. The Customer shall not assign this Agreement or any part hereof without the prior written consent of the Utility, and such unauthorized assignment may result in termination of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized

representatives.	
Dated this day of, 20	<i>:</i>
Customer:	Utility:
Ву:	By:
Title:	Title:
Mailing Address:	Mailing Address:

# <u>Accuracy Requirements for Service Watt-Hour Meters, Demand Meters, and Pulse</u> Recorders:

# A. Initial and Test Adjustments:

- (1) No watt-hour meter that has an incorrect register constant, test constant, gear ratio or dial train, or that registers upon no load ("creeps"), shall be placed in service or allowed to remain in service without adjustment and correction. An in-service meter "creeps" when, with potential applied to all stators and with all load wires disconnected, the moving element makes one complete rotation in 10 minutes or less.
- (2) No watt-hour meter that has an error in registration of more than the limits allowed in Rule 7.05.B. (1) shall be placed in service or be allowed to remain in service without adjustment. When meter error is found to exceed any one of the test limits in Rule 7.05.B.(1), it must be adjusted and a correction made to the customer's bill.
- (3) Meters must be adjusted as closely as practicable to the condition of zero error by no greater than +/- 0.5 percent.

# B. Acceptable Performance

# (1) Watt-Hour Meter Accuracy

The average error of the watt-hour meter shall not exceed +/- 2 percent.

	Test Current	Power Factor	Accuracy
Heavy Load	100% Test Amperes 100% Test Amperes	1.0 0.5 1.0	+/- 2% +/- 2% +/- 2%
Light Load	10% Test Amperes	1.0	., 270

# (2) Demand Meter Accuracy

The error of the demand register shall not exceed +/- 4% of the full scale value when tested between 25 percent and 100 percent of full scale value.

# (3) Pulse Recorders

Pulse recorders shall not differ by more than +/- 2 percent from the corresponding kilowatt hour meter registration. The timing error shall not exceed +/- 2 minutes per day.

# (4) Time of Use Meters

The timing element of time of use meters shall not be in error with central standard/daylight savings time by more than +/- 15 minutes.

# C. Average Error

(1) The average error of a service watt-hour meter shall be determined as follows:

$$WA = LL + 4HL / 5$$

Where: WA = weighted average error of a service watt-hour meter

LL = error at light load for 100 percent power factor

HL = error at heavy load for 100 percent power factor

(2) The average error of the watt-hour portion of a demand meter shall be determined as follows:

$$WA = LL + 4HL + 2HHL / 7$$

Where: WA = weighted average of error of the watt-hour portion

of a demand meter.

LL = error at light load of 100 percent power factor

HL = error at heavy load for 100 percent power factor

HHL = error at heavy load with 50 percent lagging power

factor.

Service List Docket No. - R-27558

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